

#### **IV. NEW MAGMA IRRIGATION DISTRICT**

The New Magma Irrigation and Drainage District (NMIDD) was formed in 1965 upon the dissolution of the New Magma Irrigation District. The new district was formed for the purpose of receiving CAP water. The NMIDD is located in Pinal County, approximately five miles northwest of Florence as shown on Figure L-NIA-8. The district owns no wells. In 1969, there were 103 private wells within district boundaries. The district has built a distribution system to deliver CAP water.

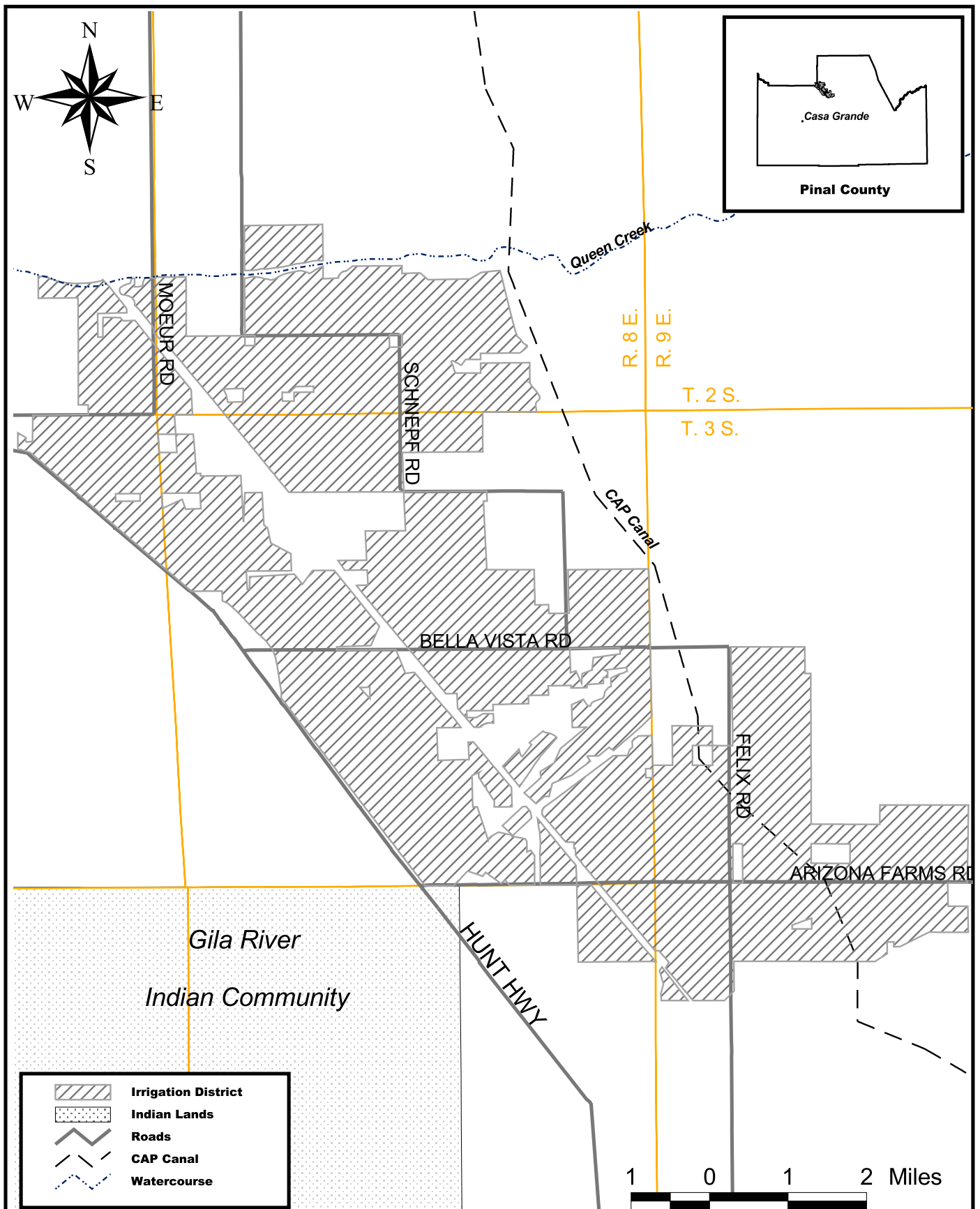
Water used within the district is a combination of groundwater and CAP water. Approximately 40,000 to 50,000 af of CAP water are used. Groundwater used within the district is privately pumped. The district is comprised of 26,900 acres.

In 1998, in the NMIDD service area, a total of 78,714 af of water was produced and delivered. Of that total, all was derived from CAP deliveries.

#### **VI.A. CAP Water Allocation History**

The NMIDD entered into a contract with the United States and CAWCD for 4.34 percent of the available NIA pool, effective October 1, 1993. Had the 1992 NIA reallocation process been completed, NMIDD's percentage of the available NIA pool would have increased to 7.23. In 1995, NMIDD declared bankruptcy and relinquished its CAP contract entitlement as part of the bankruptcy. In late 1993, NMIDD entered into a two-party letter agreement with CAWCD under which NMIDD and CAWCD "mutually agreed to waive certain rights and obligations under the Water Service Subcontract." The United States is challenging these agreements in ongoing litigation regarding operation of the CAP. Nevertheless, NMIDD has contracted for CAP water pursuant to this agreement from the Ag Pools on an annual basis and at a rate reduced from the original contract requirements.

Under the Settlement Alternative, NMIDD would voluntarily relinquish any claim to any additional water from the 1992 NIA reallocation process, in exchange for debt relief and access to affordably priced CAP Ag Pool water for the next thirty years (see Chapter 2 for full description of all Alternatives). Under Non-Settlement Alternative 3A, NMIDD would be offered and would accept an allocation of the available NIA CAP water supply. For purposes of analysis only, this percentage amount has been converted to 3,396 afa. That CAP water would be delivered for a 50-year contract period (i.e., from 2001-2051) on an as-available basis, with less water anticipated as being available later in time. The CAP water would be used to supplement water supply demands over the next 50 years and would help reduce the continuing dependence on pumping groundwater from an overdrafted groundwater system. Under all the other alternatives, NMIDD would not receive an additional allocation. It should be noted that, even without an allocation, CAP water will continue to be available to NMIDD from the Ag Pool, which is comprised of excess water. Under the Settlement Alternative NMIDD would receive 8.58 percent of the Ag Pool. Under all other alternatives, NMIDD would receive 10.3 percent of the Ag Pool. Table L-NIA-14 outlines the proposed CAP allocation by alternative.



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**CAP Allocation Draft EIS  
General Location Map  
New Magma Irrigation and Drainage District**

**Figure #L-NIA-8**

<b>Table L-NIA-14</b> <b>CAP Allocation Draft EIS</b> <b>NMIDD – Proposed Additional CAP Allocation</b>		
<b>Alternative</b>	<b>Additional Allocation<sup>a</sup> (in afa)</b>	<b>Priority</b>
Settlement Alternative	0	-
No Action	0	-
Non-Settlement Alternative 1	0	-
Non-Settlement Alternative 2	0	-
Non-Settlement Alternative 3A	3,396 <sup>b</sup>	NIA
Non-Settlement Alternative 3B	0	-
Existing CAP Allocation	0 <sup>c</sup>	NIA
<b>Notes:</b> <sup>a</sup> All NIA allocations are percentages of the available NIA CAP water supply. They are converted to fixed af amounts only for ease of calculation in the draft EIS. See Appendix B for the calculation of NIA allocation numbers. <sup>b</sup> This allocation is NMIDD's calculated percentage from the uncontracted NIA pool. <sup>c</sup> NMIDD relinquished their original CAP allocation during bankruptcy proceedings.		

#### IV.B. Water Demand and Supply Quantities

NMIDD consists of 26,548 CAP-eligible acres and 2,439 acres of CAP excess land. No new net acreage can be brought into production as a result of the 1980 GMA. Currently, NMIDD uses approximately 87,000 afa of CAP water, of which 26,865 afa are provided as in-lieu groundwater recharge. This water use pattern is based on a five-year average from 1999 to 1994. This water use pattern could change if acreage is taken out of production due to economic reasons or urbanization. Reductions in total water use reflect reductions in farmed acres due to water costs or the lack of access of CAP water.

In order to estimate impacts for the next fifty years, assumptions were made regarding the availability and pricing of CAP water for each alternative. These assumptions are fully described in Appendix A, Background Assumptions. Using the CAP water availability as a base, a model was developed (as described in Appendix D, Socioeconomic Analysis) to project water use and the number of cropped acres based on economic decisions. For example, the economic model predicts whether or not a certain wheat will be grown based on the marginal costs of growing wheat given the prices and availability of water. The water uses projected by the economic model were incorporated into the groundwater model to verify NMIDD's ability to pump and afford the projected groundwater to be used.

#### IV.C. Specific Construction-Related Impacts

No new water delivery facilities would be required with one exception. Under the Settlement Alternative, RRA restrictions may be lifted and NMIDD may desire to build new facilities to deliver CAP water to previously ineligible lands. This possibility is considered speculative at this time and is beyond the scope of this EIS.

**IV.D. Environmental Effects**

Since construction of water delivery facilities would not likely be required, the primary environmental impacts to NMIDD would result from the availability of CAP water, and its cost, under the different alternatives.

**IV.D.1. Land Use**

Table L-NIA-15 shows the land use pattern for years 2001 to 2051 within the NMIDD area. Approximately 3,900 acres are projected to be urbanized over the study period. Additionally, approximately 10,500 acres are estimated to be retired and fallowed due to farming economics. The timing of the land retirement and fallowing varies by alternative.

<b>Table L-NIA-15</b> <b>CAP Allocation Draft EIS</b> <b>NMIDD – Projected Agricultural Land Use</b> <b>(Acres)</b>				
<b>Alternative</b>	<b>Year</b>	<b>Land Farmed</b>	<b>Land Urbanized Per Time Step</b>	<b>Land Fallowed Due to Economic Reasons per Time Step</b>
Settlement Alternative	2001	23,261	0	0
	2004	22,168	1,093	0
	2017	16,146	915	5,107
	2030	9,782	915	5,449
	2043	9,278	504	0
	2051	8,829	449	0
No Action	2001	23,261	0	0
	2004	22,168	1,093	0
	2017	16,146	915	5,107
	2030	9,782	915	5,449
	2043	9,278	504	0
	2051	8,829	449	0
Non-Settlement Alternative 1	2001	23,261	0	0
	2004	22,168	1,093	0
	2017	16,146	915	5,107
	2030	9,782	915	5,449
	2043	9,278	504	0
	2051	8,829	449	0
Non-Settlement Alternative 2	2001	23,261	0	0
	2004	22,168	1,093	0
	2017	16,146	915	5,107
	2030	9,782	915	5,449
	2043	9,278	504	0
	2051	8,829	449	0
Non-Settlement Alternative 3A	2001	23,261	0	0
	2004	22,168	1,093	0
	2017	16,146	915	5,107
	2030	9,782	915	5,449
	2043	9,278	504	0
	2051	8,829	449	0
Non-Settlement Alternative 3B	2001	23,261	0	0
	2004	22,168	1,093	0
	2017	16,146	915	5,107
	2030	9,782	915	5,449
	2043	9,278	504	0
	2051	8,829	449	0

#### **IV.D.2. Archaeological Resources**

Several projects have taken place in this entity's northern half, including most prominently Reclamation's CAP survey (Marmaduke et al. 1985); several isolated occurrences, mostly ceramic shards, were noted, but no sites were found. No projects or sites have been documented in the southern half; however, numerous sites, ranging from Archaic scatters to Hohokam villages (e.g., Escalante Ruin), have been recorded between the entity's southern boundary and the Gila River. Additional prehistoric sites have been recorded to the northwest, within the Queen Creek Archaeological District. It is likely that similar cultural resource types might be present within this entity, particularly intact buried deposits below the existing plow zone.

Historic resources, including National Historic Register properties (e.g., the Florence Townsite Historic District), transportation routes, and commercial as well as residential structures, also are known. Cultural resource sensitivity areas in this entity are shown in Figure L-IA-9. Based on the limited data used to generate the cultural sensitivity designations, the potential for cultural resource impacts in this entity is low. Urbanization of farmlands could impact any intact/cultural deposits that might be preserved below the plow zone. Mitigation for these potential impacts would be determined by local jurisdictions. No impacts to cultural resources are expected from land fallowing.

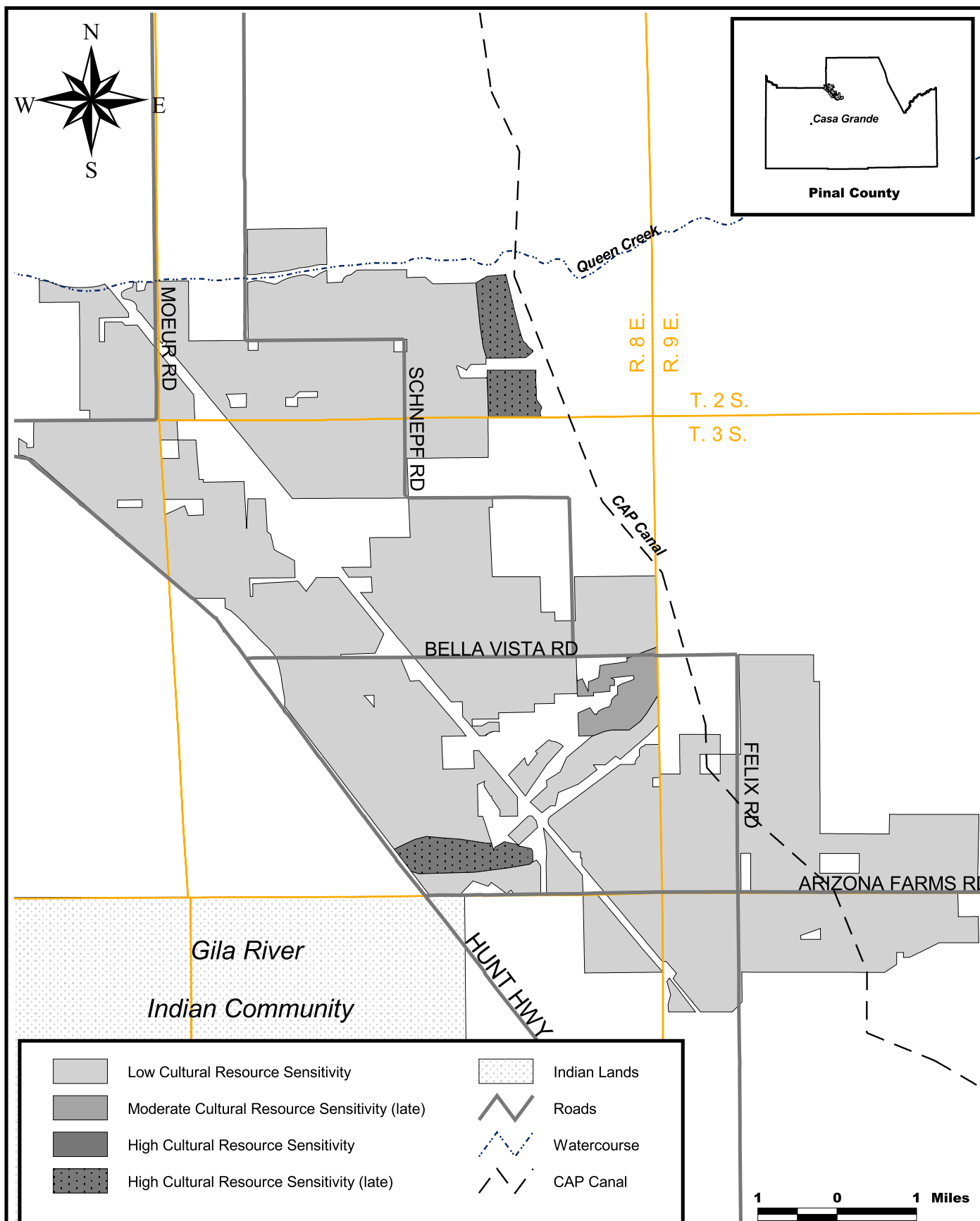
#### **IV.D.3. Biological Resources**

Table L-NIA-15 shows land use over the period of study by alternative. Land stays in agricultural production or is either converted to urban uses or is fallowed. The change in land use will result in two possible effects on biological resources. If conversion of agricultural lands to urban use occurs, loss of natural habitat or wildlife is minimal. However, adjacent lands may contain wildlife that might be impacted such as burrowing owls, nests of local birds, and habitat for small mammals. If conversion of agricultural lands to fallow fields occurs, the period of time the land is left fallow will vary. Through natural revegetation processes, these fallow fields can provide fair wildlife habitat in the long term. Reclamation with natural vegetation can enhance this process if these fields will not be developed in the future. Fallow fields often become areas of potential dispersal for noxious weeds.

#### **IV.D.4. Water Resources**

NMIDD has met historical irrigation demands using groundwater, supplemented in later years with CAP water. Groundwater levels have declined historically in response to the groundwater pumping. The TDS concentration of groundwater ranges generally from about 500 to 1,000 ppm.

Presented in Table L-NIA-16 are estimated changes in groundwater levels from 2001 to 2051 and estimated groundwater level impacts for each alternative. Under the No Action Alternative, groundwater levels decline slightly by about three feet through 2051. Because the change in groundwater level is very small, it would not be anticipated that there would be substantial changes in the groundwater pumping cost, groundwater quality, or subsidence.



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# **CAP Allocation Draft EIS** **Cultural Resources** **New Magma Irrigation and Drainage District**

Figure #L-NIA-9

Groundwater levels in year 2051 under the Settlement Alternative and all Non-Settlement Alternatives would be lower than under the No Action Alternative. The lower groundwater levels relative to the No Action Alternative reflect the reduced availability of CAP water to NMIDD under these alternatives. The lower groundwater levels relative to the No Action Alternative would result in higher groundwater pumping costs and the potential for subsidence. Groundwater quality impacts would not be anticipated.

<b>Table L-NIA-16</b> <b>CAP Allocation Draft EIS</b> <b>NMIDD – Groundwater Data Table</b>		
<b>Alternative</b>	<b>NMIDD*</b>	
	<b>Estimated Groundwater Level Change from 2001-2051 (in feet)</b>	<b>Groundwater Level Impact** (in feet)</b>
No Action	-3	--
Settlement Alternative	-66	-63
Non-Settlement Alternative 1	-30	-27
Non-Settlement Alternative 2	-81	-78
Non-Settlement Alternative 3A	-69	-67
Non-Settlement Alternative 3B	-69	-67
* Values correspond to the NMIDD sub-area. ** Computed by subtracting the estimated groundwater decline from 2001 to 2051 for the No Action Alternative from the estimated change in groundwater level for the same period for the alternative under consideration. The estimated impact is considered to be more accurate than the estimated decline in groundwater levels.		

#### IV.D.5. Socioeconomic

Table L-NIA-17 shows the estimated lost agricultural gross revenues over the 50-year study period resulting from the fallowing of approximately 10,500 acres, the timing of which varies by alternative. For more information regarding impacts of CAP water reallocation on NIA districts, refer to Appendix D of this publication.

<b>Table L-NIA-17</b> <b>CAP Allocation Draft EIS</b> <b>NMIDD Estimated Lost Gross Agricultural Revenues 2001-2051 (dollars)</b>	
<b>Alternative</b>	<b>Lost Gross Revenues 2001-2051 (\$)</b>
Settlement Alternative	232,724,946
No Action	48,046,416
Non-Settlement Alternative 1	174,919,240
Non-Settlement Alternative 2	232,724,946
Non-Settlement Alternative 3A	232,724,946
Non-Settlement Alternative 3B	232,724,946